FRA 2000
FRA 2000
FRA 2000
FRA 2000
FRA 2000
FRA 2000
FRA 2000
FRA 2000
FRA 2000

Federal Railroad Administration

A Report to the Nation

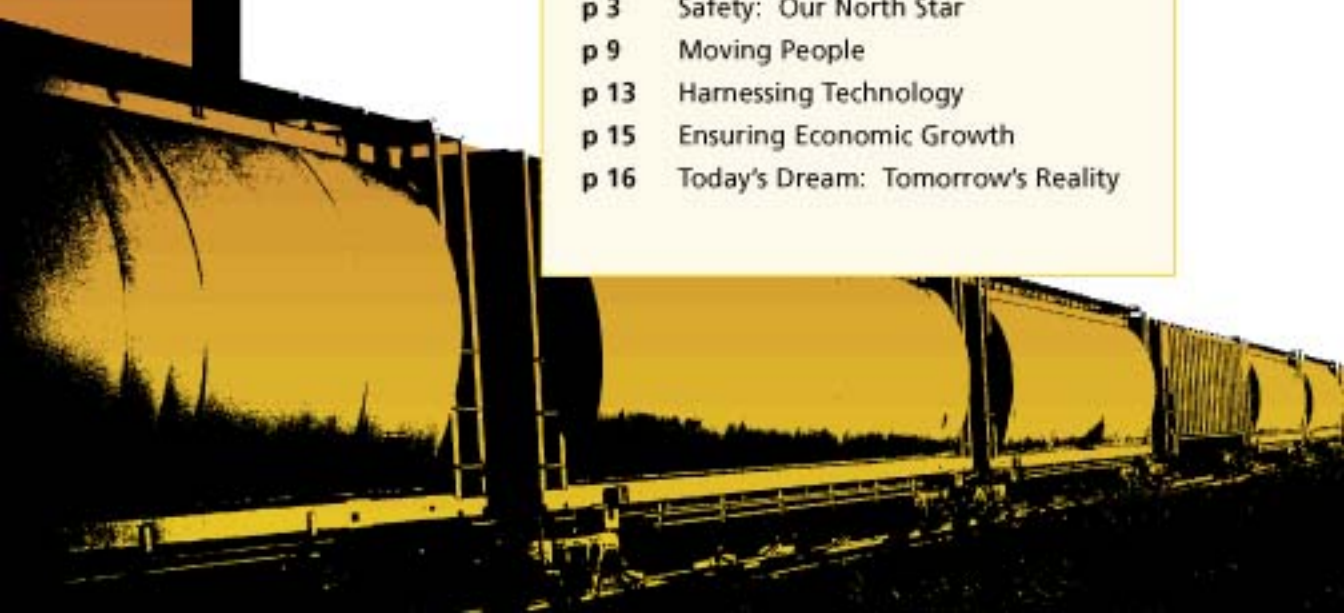
FRA 2000

Leadership.

Partnerships.

Results.

Contents:



Dear Friends,

Leadership. Partnerships. Results. Three words that embody the core spirit and professionalism of the women and men of today's Federal Railroad Administration (FRA). As we move forward into the new millennium, I am proud to present *FRA 2000, A Report to the Nation.*

The safety and security of the American people is the top priority of President Clinton and Vice President Gore, and they – along with Transportation Secretary Slater – challenged us to increase safety while doing business in new and better ways. By creating an inclusive, customer-focused agency that leverages partnerships to deliver extraordinary results, the people of FRA are meeting that challenge.

To be clear, the challenge is about saving lives. It is about ensuring more people arrive home safely each and every day – people who work on railroads, people who travel on railroads and people who live near railroads. The results speak for themselves.

The years 1993 through 1999 were the seven safest years in rail history, for every safety category we measure. FRA-led partnerships with rail labor, management and others helped reduce train accident fatalities by 87 percent; rail employee casualties by nearly 34 percent; and the leading cause of rail-related deaths, highway-rail crossing fatalities, by more than 35 percent. These record lows were achieved even though rail freight and passenger traffic were at all time highs.

Our job, however, is not done. Working with our industry partners and focusing on zero tolerance for safety hazards, FRA employees across the nation will not be satisfied until we reach zero accidents, zero injuries and zero deaths. Together, we have made great progress toward that goal and mapped out a clear path to achieving an even more advanced rail industry to move America further, faster and safer in the 21st Century.

Jolene M. Molitoris

Jolene M. Molitoris
Federal Railroad Administrator
U.S. Department of Transportation

Listening & Learning

Changing the Way We Do Business

Challenging federal agencies to operate more like private sector companies by being results driven and customer focused, Vice President Gore launched the National Performance Review in 1993 to improve customer service across the Federal government. FRA employees met the challenge head on with a top to bottom review of all agency programs and procedures. The first step was revolutionary for its simplicity: FRA listened.

In fact, for much of 1993, FRA employees nationwide listened to hundreds of individuals and groups from FRA's customer base to learn how they viewed FRA and to identify steps to improve agency services. A number of patterns and key messages emerged from this process, including the need for FRA to:

- Listen better
- Ensure greater enforcement and policy consistency
- Focus on the spirit, not just the letter of regulations
- Act with strength and speed
- Include more rail stakeholders affected by the agency's policies and programs

As a result, FRA employees set in motion a series of actions to change and modernize the culture of the agency. They worked to:

- Enhance customer service
- Leverage partnerships
- Pursue prevention programs
- Address root causes of safety concerns
- Grow safety to even higher levels

These actions created better working relationships among rail labor, management, FRA and others. By investing in a fundamental change in the way FRA operates, the safety of people and goods moved by America's railroads measurably and dramatically improved, and the cornerstone was set for even greater successes in the years to come.

Safety: Our North Star

Progress Through Partnerships

When the U.S. rail industry was partially deregulated in 1980, significant safety improvements followed as the nation's railroads began to reinvest more in tracks, equipment and training. However, by the late 1980's, those initial safety gains reached a plateau, largely because rail freight traffic continued to rise while rail employment steadily declined. This meant that every remaining railroad job was becoming more safety-critical, with little or no remaining margin for error. Radical change was needed to propel safety to a higher level.

> "Railroads historically have viewed the FRA as anything but a partner. Today, they're seeing a kinder, gentler – and more effective FRA."
>
> Progressive Railroading, November 1998

FRA set a zero tolerance goal for accidents, injuries and deaths in the rail industry. FRA also forged stronger partnerships with rail labor, management, suppliers, state rail safety agencies and other rail safety stakeholders.

By harnessing the wide-ranging talents, knowledge and experiences of the women and men who know the rail industry best because they make railroads run, day-in and day-out, FRA and the industry continue to identify safety concerns and apply solutions. Importantly, because it is a collaborative effort involving all segments of the industry, agreements are easier to reach and corrective actions can be taken relatively quickly.

Consensus on Safety

In September 1994, FRA convened a Rail Safety Summit of senior representatives from all sectors of the rail industry to address safety issues. The summit resulted in an action plan comprising 54 separate initiatives to improve highway-rail crossing and trespasser safety, and a commitment to issue the first-ever rail passenger equipment safety standards.

The Rail Safety Summit set the stage for future safety initiatives that would include input from all rail stakeholders in open, partnership-driven forums.

Consensus on Regulations

With the pledge "the dying will stop," FRA Administrator Molitoris created the Roadway Worker Advisory Committee in 1995. Five to six fatal accidents were occurring each year involving rail roadway (track) workers. Structured with a cross-section of rail industry representation, this group established a series of sound, common sense practices for railroads and railroad workers to prevent these tragic accidents.

> "No one person's job is more important than another."
>
> Transportation Secretary Rodney E. Slater

Roadway worker fatalities dropped nearly 80 percent in the years since 1996, when the new procedures were adopted. This remarkable improvement proved that partnerships based on mutual trust and resolve can make dramatic improvements in rail worker safety – and save lives.

Building on the success of this new, negotiated approach to developing life-saving regulations, the agency committed itself to a wholesale restructuring of its dated rule-making process. Traditionally, when FRA proposed a new rule, contention among industry stakeholders was the norm.

To bring about needed change, FRA formed an advisory group representing the major stakeholders in railroading to work on new safety regulations at the beginning of the process so that consensus can be reached with better rules produced. This partnership is known as the Railroad Safety Advisory Committee (RSAC).

Growing Safety: A Cultural Revolution

Creating the Railroad Safety Advisory Committee was a major step forward, but the road to consensus was not easy. Like many industries, railroad culture and practice had been ingrained in business tradition for well over 100 years. So, any change in approach – however well intentioned – was regarded as suspect.

But courageous leaders within the rail industry and FRA put aside differences and defined a new way of doing business for the next 100 years. Consensus was reached on a fundamental change of focus. The new rule-making process itself was structured to be more collegial, and there continues to be recognition that including everyone in the safety process fosters a sense of shared responsibility.

> More final and proposed safety rules were produced between 1993 and 1999, than during any similar timeframe in FRA's history. Today, FRA's new negotiated rulemaking process stands as a model benchmark within the federal government.

Today, RSAC includes over 50 members representing more than 30 organizations from all facets of the rail industry working to develop recommendations for new and revised safety regulations. The results are impressive. Since 1996, four final safety rules have been issued and eight more are currently pending. These rules will continue to save lives and contribute to historic new levels of safety within the rail industry.

New Safety Strategy: Safety Assurance and Compliance Program (SACP)

In addition to streamlining the regulatory process, in 1995, FRA created a team of FRA, labor, and management representatives on each major railroad to develop "best practices" across the rail industry to encourage further increases in rail safety.

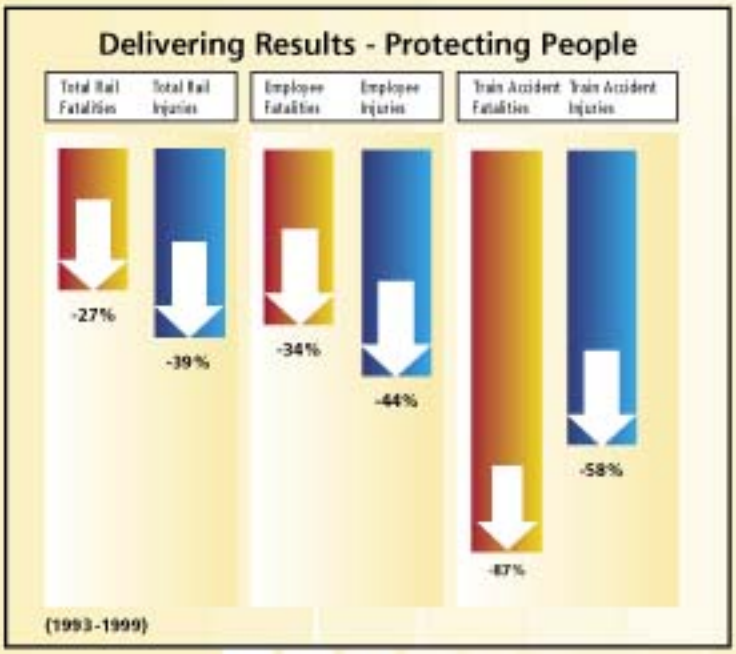
> "Rather than citing violations and civil penalties as the primary means to obtain compliance with railroad safety regulations, FRA has emphasized cooperative relationships with other federal agencies, railroad management, labor unions and the states."
>
> General Accounting Office, 1997 Report

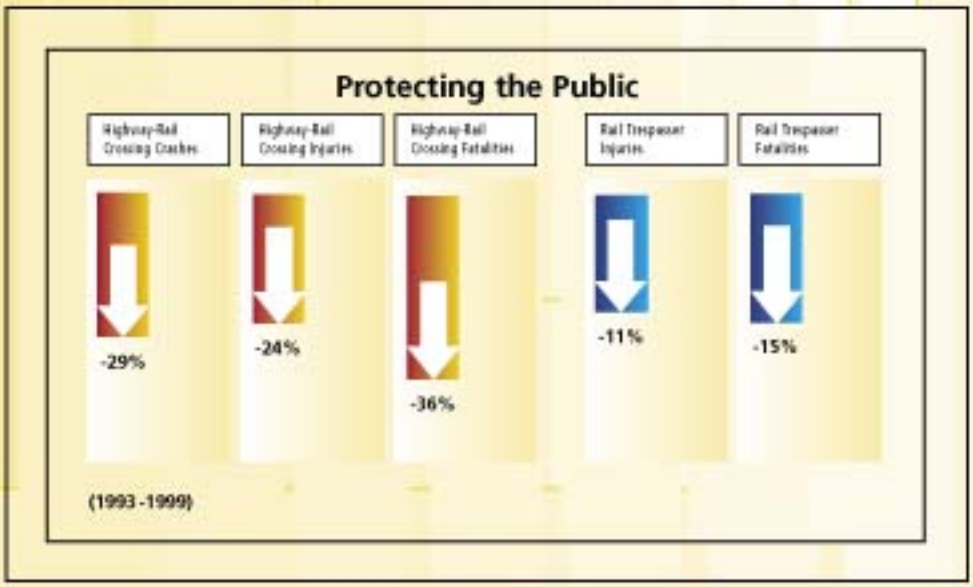
These "best practices" include new ways to:

- Conduct system wide safety audits of railroads by FRA inspection teams
- Lead outreach efforts and joint safety inspections with employees
- Create FRA/labor/management committees to identify systemic safety concerns
- Develop and carry out safety action plans to address root causes of safety lapses
- Monitor each railroad's safety action plan to determine effectiveness

SACP serves to:

- Provide a way to expedite safer industry practices
- Improve the working environment for employees
- Foster an atmosphere of trust and respect
- Supplement FRA's enforcement and compliance efforts



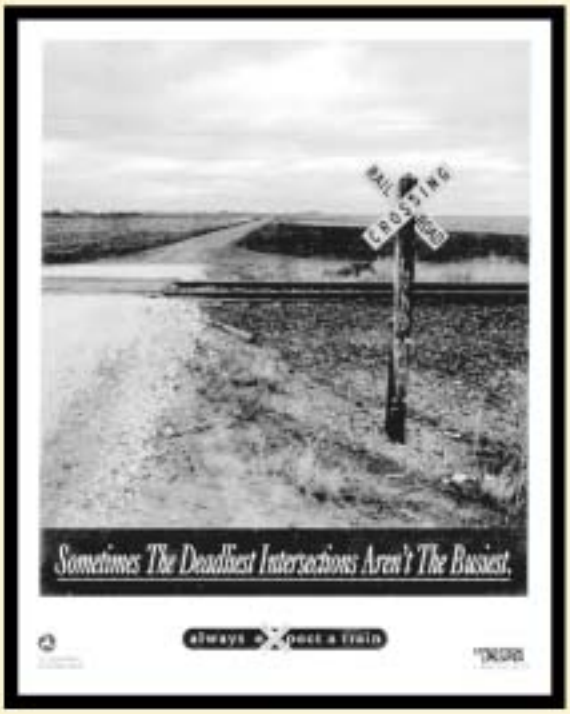


Saving Lives Through the Three E's: Engineering, Enforcement, Education

Deaths at highway-rail intersections and from trespassing on rail property account for more than 90 percent of all rail-related fatalities annually. Beginning in 1994, FRA hired eight regional grade crossing and trespass prevention managers to lead the fight to prevent these tragedies.

Working with local communities, Operation Lifesaver (a nonprofit, national public education organization) and other federal and state partners are improving crossing safety and preventing rail trespass incidents through greater **engineering**, **enforcement** and **education**. FRA also:

- Created a standing task force of over 40 railroads, rail labor groups, suppliers, other US DOT agencies and state-level DOTs to address crossing and trespass issues
- Started a revolving detail under which one police officer each year works full time at FRA as a bridge to law enforcement officials nationwide
- Tested and continues to develop "1-800" software for motorists to report problems at highway-rail intersections
- Worked with industry partners to create and launch "Always Expect A Train," a nationwide print, radio and television safety education campaign.





Taken together, these aggressive initiatives have helped reduce highway-rail and trespass fatalities by 36 and 15 percent, respectively since 1993. With an eye toward the future, FRA is complementing today's educational and enforcement efforts by advancing new technologies to further improve crossing safety, including:

- Photo enforcement where cameras record motorists who break the law so that tickets can be issued
- Median barriers and four quadrant gates so that motorists cannot drive around lowered safety gates
- Safety nets so that cars and trucks cannot intrude onto rail tracks

Preventing Fatigue: Meeting the Challenge

For well over 100 years, railroads have operated twenty-four hours a day, seven days a week. While this schedule helps keep people and freight moving, boosting both mobility and the economy, it also presents challenges related to fatigue.

Addressing these overnight and irregular work shifts and resulting fatigue challenges is an FRA priority because estimates indicate that – across all modes of transport – fatigue is involved in nearly one-third of all "human factor" accidents. To protect the lives of those working such shifts, FRA brought together rail labor and management teams to identify several fatigue-related criteria that each railroad must address. Under this North American Rail Alertness Partnership (NARAP), railroads are now:

- Educating their employees about the causes and effects of fatigue
- Developing work schedules that minimize unpredictability for employees
- Ensuring that travel lodging is clean and conducive to getting rest
- Investigating controlled "napping strategies" to address acute fatigue on the job

With these anti-fatigue strategies in place or in development (and with other industries looking to railroads as a benchmark for fatigue mitigation), NARAP is helping railroads achieve greater levels of safety by ensuring rail employees remain healthy and alert.

Protecting Rail Workers: A Top Priority

Accidents in rail yards and during switching operations are the leading causes of employee fatalities in the rail industry. With this as a primary target for needed improvement, FRA employees formed a task force with representatives from rail labor and management to analyze the causes of these accidents and develop common sense, effective solutions.

Starting with 1999, they reviewed all yard accidents from the previous seven years and developed a series of practices that – when carried out on each railroad – could prevent similar accidents from happening. These recommendations are now being implemented nationwide.

While it is still too early to determine the long-term effectiveness of this program, yard and switching accidents have dropped 30 percent in just the first six months of 2000.

Safety Vigilance: FRA on the Job

Following Secretary Slater's motto that DOT must be "visionary and vigilant," the women and men of FRA's safety force maintain a constant presence throughout the rail industry. In addition to the many new and emerging customer-focused partnerships being pursued, FRA never shrinks from its regulatory and enforcement roles.

FRA's inspection force is on the job around the clock, day and night, inspecting railroad property, equipment, tracks and procedures. Nearly 400 FRA safety inspectors work with nearly 150 state-level inspectors to closely monitor each railroad's internal inspection activities to ensure they comply with federal regulations and prevent incidents from occurring. When necessary, FRA takes tracks, equipment or personnel out of service and levies fines.

Protecting FRA's Most Valuable Resource – Its People.

FRA is among the first federal agencies to put heart defibrillators in its offices and offer employee training for using them to save the life of a co-worker. FRA even tests office air quality to ensure the best possible work environment.

Moving People: Faster, Further and Safer

Mobility is vital to American society, but as travel demand grows, highways and airports in critical corridors around the nation are increasingly congested. Fortunately, existing railroad routes provide an additional option to meet the nation's present and future mobility needs. FRA is working to advance all types of passenger rail for today's and tomorrow's mobility needs, from Amtrak and commuter rail, to non-electric high-speed locomotives and even magnetic levitation trains.

Protecting Passengers: Building Safer Rail Cars

Passenger rail travel is on the increase (up 25 percent from 1993 to 1999 when nearly 465 million passengers took to the rails). Commuter railroad operations account for 95 percent of all railroad passenger traffic. In 1999, there were 443 million commuter railroad passengers (across 16 systems), and an additional 21.5 million Amtrak passengers.

In 1999, FRA issued landmark federal safety standards for passenger rail equipment to protect these riders. Working with rail labor, railroad companies and suppliers, and coordinating activities with the American Public Transit Association (APTA), FRA developed comprehensive standards for design, maintenance and inspection of railroad passenger cars. To enhance the crashworthiness, fire safety and emergency escape features of passenger trains, APTA, in consultation with FRA, supplemented these standards with voluntary standards to enhance the benefits of the federal requirements. These steps will further protect the safety of millions of rail travelers for generations to come.

Amtrak – On Track for the Future

Amtrak plays a vital role in the nation's transportation system. FRA is committed to ensuring that the country's national, intercity passenger railroad provides the consistently high quality service the public demands, while also ensuring its financial stability. Over the last seven years, Amtrak received the federal investment necessary to forge the public-private partnerships needed to modernize what – in 1993 – was a rapidly aging fleet. Such investments allowed the railroad to enhance current service on existing routes while also investing for the future.

For the first time, Amtrak increased ridership for three consecutive years – 10 percent since 1997. Last year, Amtrak moved more people than ever and increased its commercial revenues by 16 percent to more than $1 billion. With FRA's assistance, Amtrak is now on a clear path to sustained profitability.

AMTRAK

High-Speed Passenger Rail No Longer a Dream

High speed rail is a major part of Amtrak's business plan for future operations. For the past several years, Amtrak has been working to complete the original high-speed vision of the Northeast Corridor Improvement Project, which has been deferred since the early 1980s. Vice President Gore also announced the contract award for developing America's first true high-speed train – Amtrak's "*Acela Express,*" in 1996.

Combining acceleration and excellence, Acela Express will be an important and exciting addition to the U.S. transportation system when it becomes fully operational in late 2000. Amtrak expects this important high-speed rail addition to Northeast corridor transportation will greatly reduce travel time between Boston, New York and Washington, D.C.

But high-speed rail is not just for the Northeast corridor. Spurred by partnerships among FRA, Amtrak and the states, it is progressing across the country because it offers an attractive transportation alternative to congested highways and airports in certain intercity corridors.

High-speed rail, however, did not always enjoy such a promising future. Not long ago – even within this decade – it was viewed as a technology still on the drawing board that was overshadowed by the marvels of aviation travel and America's love affair with cars. But as Americans traveled the world, they saw firsthand the convenience, speed and comfort of rail systems in other countries and asked, "Why don't we have that here?"

In the early 1990, FRA and the Administration focused Congressional and public attention on the importance of high-speed rail for the nation's future. The ultimate outcome was passage of The Swift Rail Development Act of 1994 authorizing a program of planning and technology for development of high-speed rail corridors nationwide.

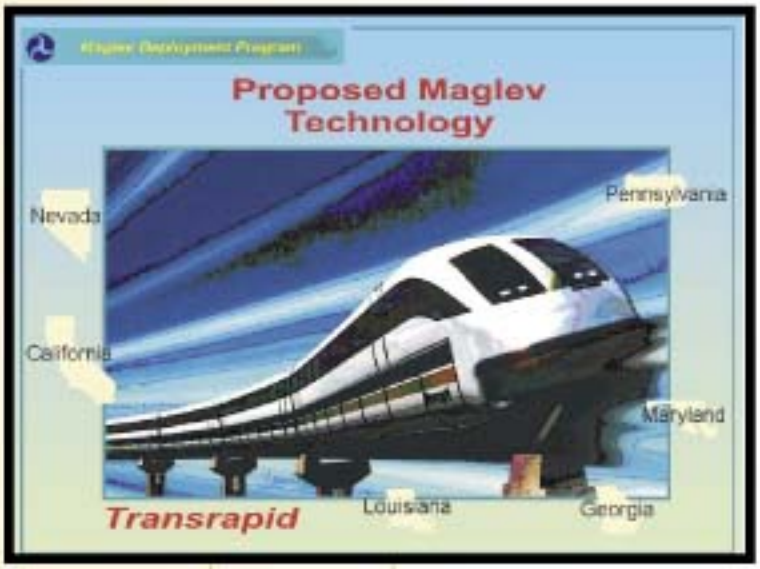
As a result, FRA is promoting new technologies for high-speed rail development by states, largely through the use of high-speed, non-electric locomotives. These locomotives can be used to achieve the speed and acceleration of electric trains without the expensive infrastructure of railroad electrification.

Currently, 34 states are participating in the development of high-speed rail passenger service. During the 1990, states invested more than $1 billion in local funding for improvements to existing rail lines to make high-speed rail possible, and will invest another billion dollars over the next five years.

Floating on Air: Maglev Moves Ahead

In seeking solutions to move people efficiently and safely through the next century, Transportation Secretary Slater challenged FRA employees to give their best ideas. As a result of that strategic process, FRA is ensuring high-speed rail and magnetic levitation rail technology (maglev) will become important links in a balanced transportation network.

Maglev is an advanced transportation technology in which magnetic forces lift and propel a vehicle over a specially designed guideway. Used on short intercity routes, these 300+ mph trains could be linked by a larger network of high-speed, steel wheel passenger trains, which travel at speeds up to 150 mph and can serve intermediate size population centers.



FRA is an active participant in the quest to operate a maglev system in the U.S. within the next five years. The Maglev Deployment Program was established in 1998 to demonstrate the feasibility of the technology, and seven states were selected to receive grants for preconstruction planning. FRA will select the most promising projects for additional studies, and then the Secretary of Transportation will select the best project for possible construction funding.

With their high capacity and excellent ride quality, as well as their safe, quiet and clean operations, maglev trains represent a potentially useful transportation option in high-density travel corridors. In the not too distant future, maglev promises to be a boon to our nation's mobility and environment.



Harnessing Technology to Boost Safety & Efficiency

There was a time when advanced technology was viewed as futuristic and embraced more out of curiosity than economic urgency. Today, technological advances are commonplace and occur with such frequency that they are almost taken for granted. Continuous improvements to equipment and operational systems are indispensable to modern rail systems and their viability as a transportation component of the U.S. economy. The technology edge will be even more critical in this century as world commerce expands along with demands to move more goods and people even more efficiently and economically.

Investing in the World's Leading Rail R&D Facility

The crown jewel of FRA's research and development program is its Transportation Technology Center (TTC) near Pueblo, Colorado. FRA owns the facility which is operated under contract with the Transportation Technology Center, Inc., a wholly owned subsidiary of the Association of American Railroads.

The center includes advanced laboratories and 50 miles of track for testing a wide range of locomotives, cars and track structures and components for freight, passenger, transit and high-speed rail operations. This partnership fosters the development of the latest research, as well as the development of new technologies that continue to bring about improvements in railroad safety and efficiency.

Without question, TTC is the world's most advanced rail-related R&D facility. TTC is used by FRA, other government agencies, the railroad industry, individual railroads, transit operators, suppliers and foreign governments and businesses the world over.

Tracking Trains From Space

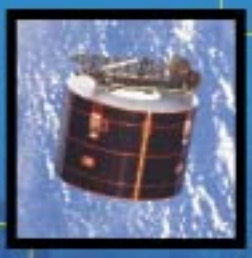
Digital communication technologies are revolutionizing not only the telecommunications industry but the transportation industry as well. FRA and the rail industry are working on the development of Intelligent Railroad Systems that will incorporate new digital communications technologies into train control, braking systems, grade crossings and defect detection. One such technology that holds great promise for the future of rail is Nationwide Differential Global Positioning Systems (NDGPS).

NDGPS is an advanced form of the global positioning system and is keyed to a ring of satellites orbiting 12,500 miles above the earth's surface. Each satellite transmits radio signals continuously, giving the satellite's location and the precise time at which the signal was sent. The NDGPS user receives these signals, measures relative arrival times, and computes the current position of the train. NDGPS is accurate to within one to three meters.

Pursuing Fail-Safe Systems To Save Lives

Positive Train Control (PTC) is a leading example of advanced technology that can benefit from NDGPS. In addition to global positioning satellites, PTC utilizes other vehicle location systems and advanced technologies, such as data radio communications systems and microprocessor computers to provide fail-safe systems that can detect a wide array of unsafe conditions and automatically stop trains before accidents occur. PTC systems can also improve the efficiency of railroad operations by increasing running time reliability and increasing track capacity.

PTC allows rail systems to carry a mix of high-speed passenger, commuter and freight trains with minimal risk of collision. In addition to minimizing risk, the PTC systems under development are intended to be considerably less costly than conventional railroad signal and control systems.



With PTC, computers assure that operations are safe and issue movement instructions to the trains over the digital radio network. A computer on each locomotive displays the permitted movements to the locomotive engineer and stops a train if operations contrary to the dispatcher's plan are attempted.

In 1995, FRA awarded a $14 million contract to Harmon Industries to develop and deploy a PTC system between Chicago and Detroit. In June of 2000, Secretary Slater also awarded a $34 million contract to a team led by Lockheed Martin Corporation to produce and install a PTC system on a 120-mile segment of the Chicago-to-St. Louis high-speed rail passenger corridor.

Ensuring Economic Growth

On July 24, 2000, FRA and U.S. Transportation Secretary Slater announced a $3.5 billion Railroad Rehabilitation and Improvement Financing Program (RRIF). This program provides funding for shortline and regional railroads for highway-rail grade crossing elimination projects and other railroad infrastructure improvements. It enables small railroads to make track improvements to help ensure their continued viability as vital links in our national transportation system.

FRA also champions international partnerships and signed ten major international agreements between 1993 and 1999. These partnerships help create new market opportunities for U.S. businesses in Europe, Asia, Africa and North America.

Today's Dream: Tomorrow's Reality

The future holds extraordinary challenges and opportunities for the transportation industry. Our nation's population – currently 280 million – is expanding at a tremendous rate – nearly 3 million additional people each year. Americans are traveling more today than at any time in history, and with many highways and airports already gridlocked, practical, long-term solutions are needed.

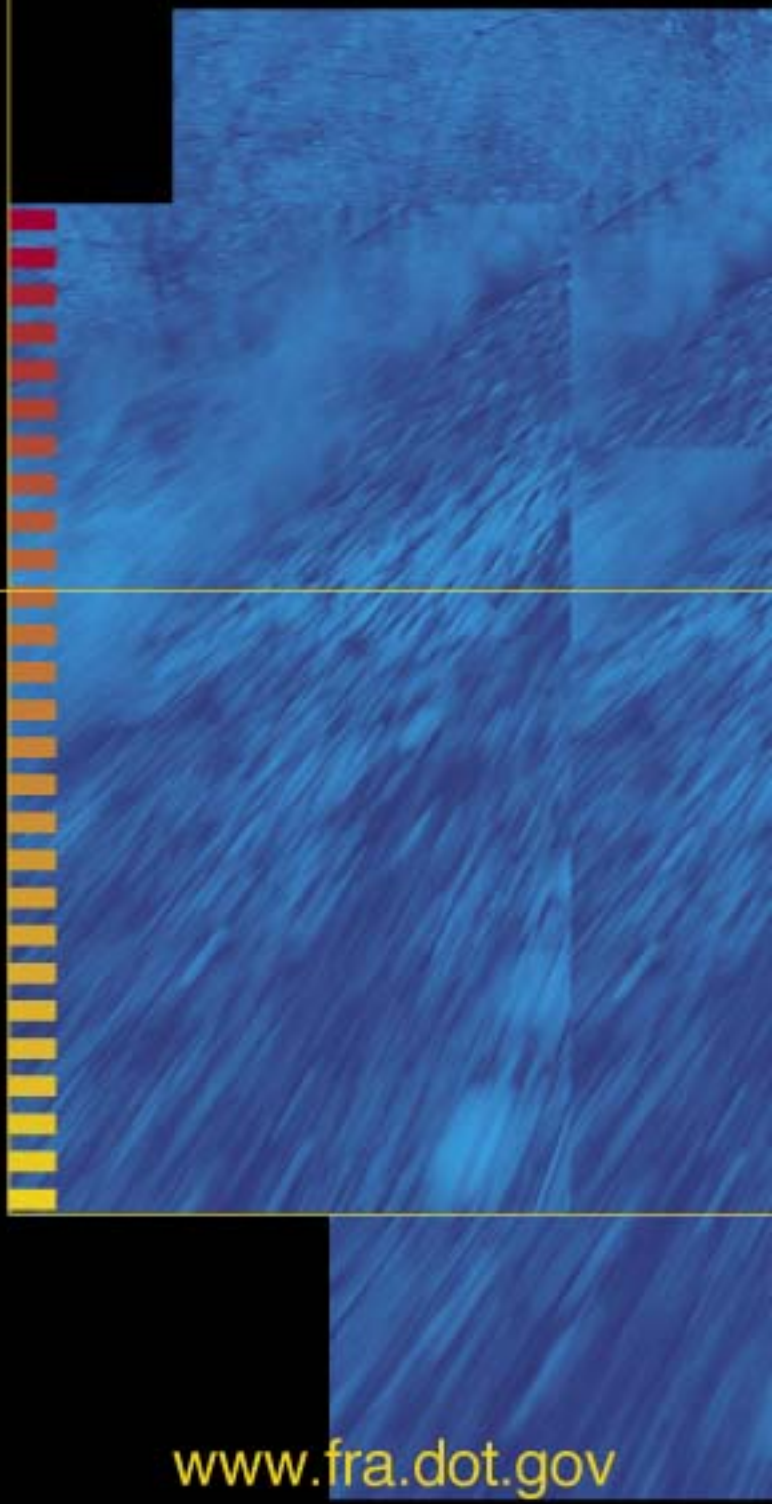
Moving people and freight safely and efficiently in the 21st Century will demand creative thinking and innovation, and will include even more linking of trains, planes, ships, cars and trucks. Because connectivity is so important, Secretary Slater instituted the "One DOT" program to encourage the various modes of the Department of Transportation to begin coming together for a common strategic purpose.

Existing and future technology will propel our rail system forward into a modern marvel of advanced efficiency, environmental friendliness and superior safety. Guiding this evolution will be the professional public servants of the FRA. Just as they have done since FRA first opened its doors in 1967, the FRA team will serve the American people by pushing the limits and seeking new ways to achieve even greater successes.

Today, working with its industry partners, the women and men of FRA are combining the very best in technology and human factors to help ensure that the nation has a safe and thriving freight and passenger rail system suitable for the 21st Century.

The FRA team will succeed by exemplifying leadership, fostering partnerships and delivering results.

Federal Railroad Administration 2000



U.S. Department
of Transportation

**Federal Railroad
Administration**

1120 Vermont Avenue, NW
Washington, DC 20005

Phone: 202.493.6024

www.fra.dot.gov